

1       1. A method for transmitting a plurality of data types over a plurality of  
2 transmission paths, comprising:  
3             storing data of a plurality of compressed and non-compressed data types;  
4             receiving requests for the stored data;  
5             transmitting data of both the compressed and non-compressed data types  
6 over each of a plurality of transmission paths; and  
7             processing the transmitted data in accordance with the type of transmitted  
8 data after the transmission of the data.

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10      2. The method of claim 1, wherein storing the compressed data types further  
11 comprises placing the data in a plurality of First-In First-Out (FIFO) buffers.

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13      3. The method of claim 1, further comprising requesting the stored data by  
14 introducing an identification pattern into a transmission request, the identification pattern  
15 indicating the type of data requested.

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17      4. The method of claim 1, wherein transmitting data of both the compressed  
18 and non-compressed data types further comprises transmitting the data identification  
19 pattern associated with the data type being transmitted at the same time as the data being  
20 transmitted.

1           5. The method of claim 1, wherein transmitting data of both the compressed  
2 and non-compressed data types further comprises transmitting Linework (LW) data over  
3 any one of a plurality of transmission paths.

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5           6. The method of 1, wherein transmitting data of both the compressed and  
6 non-compressed data types further comprises transmitting Linework control (LWC) data  
7 over any one of a plurality of transmission paths.

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9           7. The method of 1, wherein transmitting data of both the compressed and  
10 non-compressed data types further comprises transmitting continuous tone (CT) data over  
11 any one of a plurality of transmission paths.

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13           8. The method of claim 1, wherein processing the transmitted further  
14 comprises reading a word of the data into a data decompression module every one half  
15 clock cycle.

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17           9. The method of claim 8, wherein processing the transmitted data further  
18 comprises multiplexing the different types of data and processing each type of data  
19 received in accordance with the data type.

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21           10. The method of claim 9, wherein processing the transmitted data further  
22 comprises losslessly decompressing the data when the data received is Linework (LW)  
23 data.

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2        11. The method of claim 9, wherein processing the transmitted data further  
3 comprises losslessy decompressing the data when the data received is Linework control  
4 (LWC) data.

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6        12. The method of claim 9, wherein processing the transmitted data further  
7 comprises decompressing the data when the data received is continuous tone (CT) data.

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9        13. A method for transmitting a plurality of data types over a plurality of  
10 transmission paths comprising:

11            storing data of a plurality of compressed and non-compressed data types in a  
12            plurality of First-In First-Out (FIFO) buffers;

13            requesting the stored data by introducing an identification pattern into a  
14            transmission request, the identification pattern indicating the type of data being  
15            requested;

16            transmitting the identification pattern associated with the data type being  
17            transmitted at the same time as the data being transmitted;

18            transmitting Linework (LW) data over any one of a plurality of transmission  
19            paths;

20            transmitting Linework control (LWC) data over any one of a plurality of  
21            transmission paths;

22            transmitting continuous tone (CT) data over any one of a plurality of transmission  
23            paths.

1 processing the transmitted data in accordance with the type of data after the  
2 transmission of the data further comprising:  
3 reading a word of data into a decompression module every one-half clock cycle;  
4 multiplexing the different types of data and processing each type of data received  
5 in accordance with the data type;  
6 losslessly decompressing the data when the data received is Linework (LW) data;  
7 losslessly decompressing the data when the data received is Linework control  
8 (LWC) data; and  
9 decompressing the data when the data received is continuous tone (CT) data.

10

11 14. A system for transmitting a plurality of data types over a plurality of  
12 transmission paths comprising:  
13 a memory module configured to store a plurality of compressed and non-  
14 compressed data types;  
15 a handshaking control module configured to control the data flow into a  
16 data processing module; and  
17 a data processing module configured to receive and process the transmitted  
18 data in accordance with the type of the transmitted data.

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20 15. The system of claim 14, wherein the memory module further comprises a  
21 plurality of First-In First-Out (FIFO) buffers.

1           16. The system of claim 14, wherein the handshaking control module is  
2 further configured to receive data from a host and place the received data into the  
3 memory module.

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5           17. The system of claim 16, wherein the handshaking module is further  
6 configured to place the data received into one of the plurality of FIFO buffers  
7 depending upon the type of data received.

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9           18. The system of claim 14, wherein handshaking control module is  
10 further configured to receive requests for print data from the data processing module.

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12           19. The system of claim 18, wherein the handshaking control module is  
13 further configured to place the data requested from the data processing module on  
14 the data bus appropriate for the data type requested.

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16           20. The system of claim 19, wherein the handshaking control module is  
17 further configured to place continuous tone (CT) data upon a dedicated continuous  
18 tone bus.

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20           21. The system of claim 19, wherein the handshaking control module is  
21 further configured to place Linework (LW) data upon the least busy of a plurality of  
22 buses used for either Linework (LW) or Linework control (LWC) data.

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1           22. The system of claim 19, wherein the handshaking control module is  
2           further configured to place Linework control (LWC) data upon the least busy of a  
3           plurality of buses used for either Linework (LW) or Linework control (LWC) data.

4  
5           23. The system of claim 14, wherein the data processing module if further  
6           configured to evaluate header information relating to a print job to determine what  
7           types of data to request from the handshaking control module.

8  
9           24. The system of claim 23, wherein the data processing module is further  
10          configured to read one word of received data into a decompression module every  
11          one-half clock cycle.

12  
13          25. The system of claim 24, wherein the data processing module is further  
14          configured to process each type of data received in accordance with the data type.

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16          26. The system of claim 25, wherein the decompression module is  
17          configured to losslessly decompress Linework (LW) data.

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19          27. The system of claim 25, wherein the decompression module is  
20          configured to losslessly decompress Linework control (LWC) data.

21  
22          28. The system of claim 25, wherein the data processing module is further  
23          configured to decompress continuous tone (CT) data.